REMARKS

Claims 3 and 5 have been amended, claims 47-48, 54-64, and 78 have been cancelled without prejudice, and new claims 79-81 have been added. Accordingly, claims 1-46, 49-53, 65-77, and 79-81 are pending in the present application. The claim amendments and new claims are supported by the specification and claims as originally filed, with no new matter being added. Claim 3 has been amended to correct a typographical error. Accordingly, favorable reconsideration of the pending claims is respectfully requested.

The specification has been amended to provide a brief product description of the Kinegram and Pixelgram holographic devices identified by their trademarked names. Such holographic devices were known prior to the filing of the present application. Accordingly, no new matter is added to the specification by this amendment. The specification has also been amended to include the patent numbers of cited U.S. patent applications that have recently issued, and to correct typographical errors.

1. Rejections Under 35 U.S.C. § 112

Claim 5 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons set forth on pages 2-3 of the Office Action.

The Examiner indicated that use of a trademarked name in a claim in order to define the limits of the claim is indefinite. Applicants have amended claim 5 to delete the use of the trademarked names (Kinegram® device and Pixelgram® device) and to replace these names with a corresponding recitation defining these products. The amendment to claim 5 corresponds with the amendment to the specification discussed above related to the Kinegram and Pixelgram holographic devices.

Accordingly, Applicants respectfully request that the rejection of claims 5 under 35 U.S.C. § 112, second paragraph, be withdrawn.

2. Rejections Under 35 U.S.C. § 103

Claims 1-4, 7, 14, 66-68, 76, and 77 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,214,530 to Coombs et al. (hereinafter "*Coombs*") for the reasons set forth on pages 3-4 of the Office Action. Applicants respectfully traverse.

Claim 1 recites a security article comprising a light transmissive substrate having a first surface and an opposing second surface. The first surface has an "optical interference pattern," and a "color shifting optical coating" is on the second surface of the substrate. The optical coating provides an observable color shift as the angle of incident light or viewing angle changes. Independent claim 66 is directed to a hot stamp structure for use in attaching a security article to an object and includes limitations similar to those recited in claim 1 related to the "optical interference pattern" and the "color shifting optical coating."

Coombs was cited for disclosing a transparent substrate with a multilayer interference coating including an absorber on the substrate, and a dielectric on the absorber. The Examiner admits that *Coombs* does not teach the use of a second coating on the other side of the substrate, or the adhesive or release layers. The Examiner asserts that a multiplicity of interference coatings on either side of a substrate is well known in the art and would have been obvious for the purpose of enhancing the efficiency of the *Coombs* filter.

Applicants respectfully point out that while present claim 1 recites an optical coating on a second surface of the substrate, the first surface has an "optical interference pattern" thereon, which is not the same as a color shifting optical coating. As recited in present claim 4, the

optical inference pattern can be a diffraction grating pattern, refraction pattern, holographic image pattern, corner cube reflector, zero order diffraction pattern, moiré pattern, and combinations thereof. Such interference patterns on a surface are not taught or suggested by *Coombs*. In addition, as described in the specification and shown in the drawings, the security articles of the present invention can have both holographic (diffractive) spectra (Figure 18) and optical thin film interference (color shifting) spectra (Figure 21). Figure 18 depicts the reflective peaks for various diffractive orders of a hologram, while Figure 21 shows a color shift from magenta to green. As seen in Figures 18 and 21, holographic spectra is quite different from optical thin film interference spectra.

Applicants note that the *Coombs* filter is based on an interference design that uses the design itself to remove spectral peaks that normally would be present in a typical Fabry Perot filter design. The presently claimed invention has nothing to do with enhancing the efficiency of a filter such as disclosed in *Coombs*, which the Examiner appears to be suggesting. Rather, the present invention makes hologram devices and other diffractive devices more secure by combining such devices with an optical coating that gives a color shifting background. Prior to the present invention, holograms and other diffractive devices had only a "silver" reflective background produced by an aluminum layer deposited over the holographic/diffractive surface. Such a layer of aluminum has no color shifting properties with viewing angle, thus making holograms less secure since they can be more easily counterfeited (*see* page 4 of the specification).

Accordingly, for the above reasons, claims 1, 4, and 66 would not have been obvious over *Coombs*. The remaining rejected claims depend from a respective one of claims 1 or 66, and thus include the limitations of the respective independent claims. Hence, these dependent

claims would not have been obvious over *Coombs* for at least the same reasons as discussed above for claims 1 and 66. Applicants therefore respectfully request that the rejection of the claims under 35 U.S.C. § 103(a) be withdrawn.

3. Allowable Subject Matter/New Claims

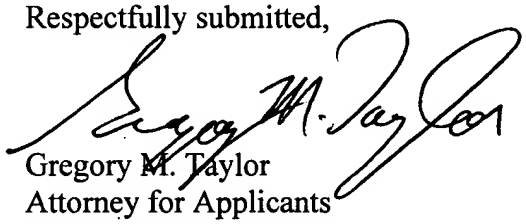
The Examiner has indicated that claims 5, 6, 8 and 70 are objected to but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. New independent claims 79, 80, and 81 as presented herein correspond respectively to claims 6, 8, and 70 rewritten in independent form. Accordingly, new claims 79-81 are in condition for allowance, and are readable on the currently elected species.

CONCLUSION

In view of the foregoing, Applicants respectfully request favorable reconsideration and allowance of the present claims. In the event there remains any impediment to allowance of the claims, which could be clarified in a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney.

Dated this 17th day of December 2001.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW THE CHANGES MADE

IN THE SPECIFICATION:

The paragraph beginning at page 12, line 12 of the specification has been amended as follows:

The optical interference pattern 14 formed on the outer surface of light transmissive substrate 12 can take various conventional forms including diffraction patterns such as diffraction gratings, refraction patterns, holographic patterns such as two-dimensional and three-dimensional holographic images, corner cube reflectors, Kinegram® devices (*i.e.*, holograms with changing imagery as the angle of view is changed), Pixelgram® devices (*i.e.*, a hologram with multiple holographic pixels arranged in a spatial orientation that generates one holographic image), zero order diffraction patterns, moiré patterns, or other light interference patterns based on microstructures having dimensions in the range from about 0.1 μm to about 10 μm, preferably about 0.1 μm to about 1 μm, and various combinations of the above such as hologram/grating images, or other like interference patterns.

The paragraph beginning at page 19, line 24 of the specification has been amended as follows:

Suitable embodiments of the flake structure are disclosed in a copending application Serial Number 09/198,733, filed on November 24, 1998, now U.S. Patent No. 6,157,489 and entitled "Color Shifting Thin Film Pigments," which is incorporated herein by reference. Other suitable embodiments of color shifting or optically variable flakes which can be used in paints or inks for application in the present invention are described in U.S. Patent Nos. 5,135,812, 5,171,363, 5,278,590, 5,084,351, and 4,838,648, the disclosures of which are incorporated by reference herein.

The paragraph beginning at page 26, line 10 of the specification has been amended as follows:

In an additional embodiment of the invention illustrated in Figure 13, a security article 140 includes elements similar to those discussed above with respect to security article[s] 130, including a light transmissive substrate 12 formed with an optical interference pattern 14, and a color shifting optical coating 146 that is laminated to [a] substrate 12 by way of an adhesive layer 62. The optical coating 146 includes an absorber layer 18, a dielectric layer 20, and a reflector layer 22 as described above, with optical coating 146 being deposited on a carrier sheet 64 to form a prelaminate structure prior to being laminated to substrate 12. The prelaminate structure is subjected to a laser imaging process such as described above for security article 130 in order to form both a laser ablated image 118 as well as a laser scribed number 122. In addition, a covert resistive layer 148 is formed on substrate 12 over interference pattern 14. The covert resistive layer 148 is composed of a transparent conductive material such as indium tin oxide (ITO), indium oxide, cadmium tin oxide, combinations thereof, and the like, and provides enhanced features to security article 140 such as a defined electrical resistance. Such covert resistive layers are described in U.S. Patent Application Serial No. 09/094,005, filed June 9, 1998, now U.S. Patent No. 6,031,457, the disclosure of which is incorporated herein by reference. The covert resistive layer can be applied to other embodiments of the invention if desired.

The paragraph beginning at page 27, line 1 of the specification has been amended as follows:

It should be understood that the above embodiments depicted in Figures 10-13 could alternatively be laminated obversely such that the embossed surface with a high index transparent dielectric layer is adjacent to the laminating adhesive and optical coating. For example, Figure 14 depicts a security article 150 which includes essentially the same elements as security article[s] 130, including a light transmissive substrate 12 with an optical interference pattern 14, and a color shifting optical coating 156 that is

laminated to substrate 12 by way of an adhesive layer 62. The optical coating 156 includes an absorber layer 18, a dielectric layer 20, and a reflector layer 22. The optical coating 156 is deposited on a carrier sheet 64 to form a prelaminate structure prior to being laminated to substrate 12. The prelaminate structure is subjected to a laser imaging process to form both a laser ablated image 118 as well as a laser scribed number 122. As shown in Figure 14, the optical coating 156 is laminated to substrate 12 so as to be adjacent to optical interference pattern 14 such as a holographic or diffractive pattern.

IN THE CLAIMS:

Claims 3 and 5 have been amended as follows:

3. (Once Amended) The security article of claim 2, wherein the plastic material is selected from the group consisting of polyethylene terephthalate, polycarbonate, polyvinyl chloride, polyacrylates, polyacrylonitrile, polystyrene, polypropylene, cellulose diacetate, cellulose triacetate, polydicyclopentadiene, and mixtures [and] or copolymers thereof.

5. (Once Amended) The security article of claim 1, wherein the optical interference pattern is selected from the group consisting of a [Kinegram® device, and a Pixelgram® device] hologram with changing imagery as the angle of view is changed, and a hologram with multiple holographic pixels arranged in a spatial orientation that generates one holographic image.